

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/020706

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07C309/82 C08F14/18 H01M8/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07C C08F H01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BEILSTEIN Data, WPI Data, PAJ, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No
X	DATABASE CAPLUS CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; XP002303652	1-4, 9-58
Y	Database accession no. 2004:209841 abstract	5-8, 18-58
	& CN 1 349 962 A (SHANGHAI INSTITUTE OF ORGANIC CHEMISTRY) 22 May 2002 (2002-05-22)	
Y	WO 97/25369 A (BALLARD POWER SYSTEMS) 17 July 1997 (1997-07-17) claims 8,9; example 6	5-8, 18-58
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☒ Further documents are listed in the continuation of box C☒ Patent family members are listed in annex

* Special categories of cited documents.

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

& document member of the same patent family

Date of the actual completion of the international search

7 December 2004

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax. (+31-70) 340-3016

Authorized officer

English, R

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>WO 98/20573 A (DU PONT DE NEMOURS) 14 May 1998 (1998-05-14)</p> <p>claim 1; examples -----</p>	<p>1,5,9, 18,31, 32,48</p>
A	<p>WO 96/39379 A (BALLARD POWER SYSTEMS) 12 December 1996 (1996-12-12)</p> <p>claims 1,4,16,18; examples -----</p>	<p>1,5,9, 18,31, 32,48</p>
A	<p>EP 1 170 310 A (SAMSUNG ELECTRONICS) 9 January 2002 (2002-01-09)</p> <p>page 8, line 11 - line 41; claims 1,7,8; figure 2 -----</p>	<p>1,5,9, 18,31, 32,48</p>

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Information on patent family members

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